

**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An image processing apparatus for gradation transformation processing of an abdominal image which includes a spinal region and a gas region, comprising:
  - first means for obtaining a processed image by sorting pixels of ~~an original~~ the abdominal image into an order from pixels having higher pixel values to pixels having lower pixel values;
  - second means for calculating a characteristic value from a predetermined region of the processed image; and
  - gradation transforming means for executing gradation transformation processing of the ~~original abdominal~~ image based on the characteristic value,
    - wherein the predetermined region is set at a position apart from low-pixel-value-region side of the processed image by a distance corresponding to the spinal region.
2. (Currently Amended) The apparatus according to claim 1, further comprising:
  - irradiation region recognizing means for extracting an irradiation region from the ~~original abdominal~~ image,
  - wherein said first means executes the sorting of images within the extracted irradiation region.
- 3-4. (Canceled)
5. (Currently Amended) ~~An The image processing apparatus according to claim 1, further~~ comprising:
  - radiation generating means for generating radiation; and
  - image pickup means for picking up an abdominal image created by radiation transmitted through the abdomen of an object.
  - ~~a two-dimensional X-ray sensor for transforming the radiation into an original~~ image;

~~first means for obtaining a processed image by sorting pixels of the original image into an order from pixels having higher pixel values to pixels having lower pixel values;~~  
~~second means for calculating a characteristic value from a predetermined region of the processed image; and~~  
~~gradation transforming means for executing gradation transformation processing of the original image based on the characteristic value.~~

6-8. (Canceled)